## SUPPORT FOR THE AMENDMENT

This Amendment amends the title; cancels Claims 3-4 and 14-20; and amends Claim 1. Support for the amendments is found in the specification and claims as originally filed. In particular, support for the title is found in the specification at least at page 2, line 30 to page 3, line 3. It is believed that new matter would be introduced by entry of these amendments.

Upon entry of these amendments, Claims 1-2 and 5-13 will be pending in this application. Claim 1 is independent.

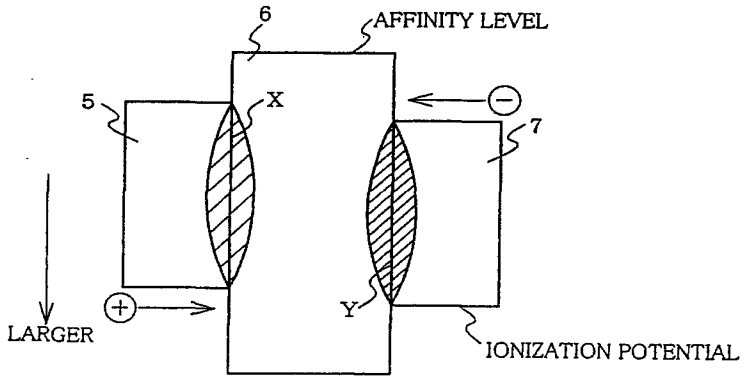
## REQUEST FOR RECONSIDERATION

Applicants respectfully request entry of the foregoing and reexamination and reconsideration of the application, as amended, in light of the remarks that follow.

The present invention provides a white organic EL device, with a high luminous efficiency and small change in chromaticity, by interposing a carrier barrier layer between two organic emitting layers and controlling the energy levels of the layers. Specification at page 2, lines 23 to page 3, line 4; page 5, lines 4-6.

[0013]
Fig. 2 shows energy levels of the first emitting layer 5, electron barrier layer 6 and second emitting layer 7 of the organic EL device 1. In this Figure, upper sides represent the affinity level of electrons, and lower sides represent ionization potential. In the energy level diagram, a lower portion exhibits a greater value. Specification at page 6, lines 16-22.

FIG. 2



Claims 1-2, 5-9 and 11-13 are rejected under 35 U.S.C. § 102(b) over U.S. Patent Application Publication No. US 2004/0032214 A1 ("Lee"). Claim 10 is rejected under 35 U.S.C. § 103(a) over Lee.

Lee discloses a white light-emitting organic electroluminescent element comprising an anode; a hole injecting layer; a hole transporting layer; an organic electroluminescent layer consisting of two or three color light-emitting layers and one or more controlling layer, the controlling layer being made of a blocking material for controlling the stream of electrons between the light-emitting layers; an electron transporting layer; and a cathode. Lee at [0012]. Lee discloses that preferably, the blocking material may be one selected from the group consisting of 4,4'-bis[N-(1-naphtyl)-N-phenylamino]biphenyl (α-NPD), bathocuproine or 2,9-dimethyl-4,7-diphenyl-1,10-phenanthro-line. Lee at [0014]. Lee discloses that a controlling layer 45 may be present at all positions between blue, green and red light-emitting layers 44, 49, 50, or at any one position between them. Lee at [0032]. Lee discloses that an organic electroluminescent material for emitting green light may be Alq3, an organic electroluminescent material for emitting blue light may be DPVBi, and an organic electroluminescent material for emitting red light may be CDJTB doped Alq3. Lee at [0030]. Lee discloses that α-NPD is most preferable as blocking material for the controlling layer. Lee at [0033].

The OLED of Lee comprises a first emitting layer composed of Alq3, a carrier barrier layer composed of α-NPD (=NPB) and a second emitting layer composed of DPVBi or CDJTB doped Alq3.

*Journal of Applied Physics*, 100, 083111 (2006) ("Su-Hua Yang")(copy filed January 21, 2009) discloses the ionization potentials and affinity levels of Alq3, α-NPD (=NPB), DPVBi and CDJTB doped Alq3 in FIG. 2, reproduced below.

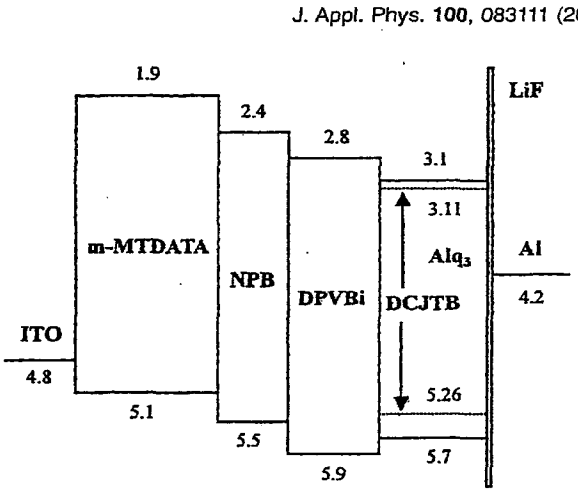
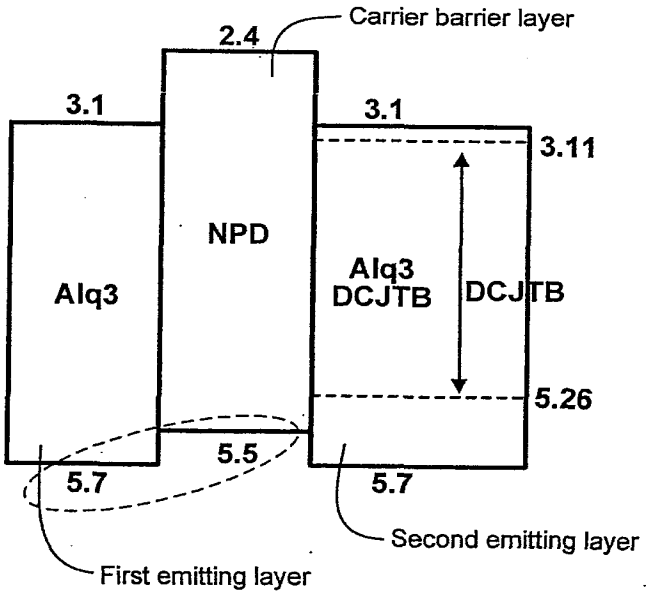



FIG. 2. Energy-level diagram of the WOLED.

Lee's organic electroluminescent device is reproduced below, using the energy levels of Su-Hua Yang.



In the case where the energy levels of Su-Hua Yang are applied to Lee, the OLED of Lee does not meet Claim 1 of the present invention because the ionization potential of the carrier barrier layer is lower than that of the first emitting layer (Ip(Alq3) > Ip(NPD).

The ionization potential of 5.5 of Lee's carrier barrier layer is ***less*** than the ionization potential of 5.7 of Lee's first emitting layer.

Lee fails to disclose, expressly or inherently (i.e., necessarily), the independent Claim 1 limitations that "the ionization potential of the carrier barrier layer is **more** than the ionization potential of the first emitting layer by 0.1 eV or more and the affinity level of the carrier barrier layer is less than the affinity levels of the first emitting layer and the second emitting layer by 0.1 eV or more; provided that the carrier barrier layer which is formed of bathocuproine is excluded".

As discussed above, Lee at [0033] discloses that α-NPD is most preferable. This disclosure teaches away from the present invention.

Thus, the rejection under 35 U.S.C. § 102(b) over Lee should be withdrawn.

Claims 3-4 and 14-20 are rejected under 35 U.S.C. § 103(a) over Japanese Patent Publication 2002-313553 ("Omori") in view of U.S. Patent No. 7,022,421 ("Thompson"). Claims 3-4 and 14-20 are canceled, so the rejection is moot and should be withdrawn.

The title is objected to. To obviate the objection, the title is amended.

In view of the foregoing amendments and remarks, Applicants respectfully submit that the application is in condition for allowance. Applicants respectfully request favorable consideration and prompt allowance of the application.

Should the Examiner believe that anything further is necessary in order to place the application in even better condition for allowance, the Examiner is invited to contact Applicants' undersigned attorney at the telephone number listed below.

Respectfully submitted,

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